STATEMENT OF WORK FOR
STANDARD AUTOMOTIVE TOOL SET (SATS)
PUBLICATION REQUIREMENTS

1. PURPOSE: This Statement Of Work (SOW) is applicable to publication requirements that the contractor shall be responsible for when producing SATS in accordance with DFP 420. The SATS shall utilize a system manual supplemented with Commercial Off The Shelf (COTS) manuals and literature.

2. APPLICABLE DOCUMENTS: This document shall be used in conjunction with MIL-STD-40051B, Standard Practice, Technical Manual Preparation (available at http//www.logsa.army.mil/pubs.htm), Table A-1 of MIL-STD-40051B (encl 1), Instructions for Requisitioning Parts from Commercial Sources (encl 2), example parts list order form (encl 3), and additional guidance concerning Maintenance Allocation Charts (encl 4).

3. REQUIREMENTS:

3.1. SYSTEM MANUAL: The contractor shall provide a comprehensive system manual for the SATS. If a component of the system is provided to the contractor as Government Furnished Equipment (GFE), the Technical Manual does not need to address that component as that component shall have an already approved Army Technical Manual. However, any modifications to that component as far as additional wiring, the drilling of mounting holes, etc, shall be addressed within the contractor's prepared Technical Manual in accordance with this SOW. The system manual shall be prepared in accordance with (IAW) MIL-STD-40051B and this SOW. Detailed requirements are annotated in Table A.1 taken from MIL-STD-40051B for a “-13&P” type manual (encl 1). The Government shall furnish the Technical Manual(TM) Number designator to the contractor prior to the final TM delivery and that TM Number shall be reflected in the system manual. The system name for the system’s manual shall be “STANDARD AUTOMOTIVE TOOL SET”.

3.1.1. The system manual shall be prepared in the English language. Illustrations and/or pictures within the system manual shall not contain civilian personnel. The system manual shall be in black and white. Two copies of the finalized system manual will be overpacked with each SATS.

3.1.2. PARTS LIST: In addition to the requirements in MIL-STD-40051 concerning the parts list, the following shall also apply.

3.1.2.1. The parts list shall be broken into 2 sections. Section 1 shall be called “SPARE AND REPAIR PARTS” and it shall contain the necessary spares and repairs to support the SATS. Section 2 shall be called “CONSUMABLES” and it shall contain all the consumables on board with the SATS.

3.1.2.2. All parts list within the system manual shall contain a column designated “NSN” which shall be left blank until the Government furnishes the required NSNs during subsequent manual reviews. Column shall be designed to accommodate 16 characters.

3.1.2.3. PARTS LIST ORDER FORM: Within the system manual immediately following the parts list, the contractor shall provide a qty of 5 duplicate order forms that users may utilize when ordering parts. The order form shall allow users to provide the necessary information to allow contractors to ship parts to locations both within and outside of the United States. An example Parts Order Form is provided that may be modified and utilized for the contractor’s system manual (Encl 3). Procedures that contractor’s shall utilize to ship upon receiving this filled out form shall be covered by a separate SOW for Supply Support. Required info on the order form shall include the following at a minimum:

Name
Organization
Address
DODAAC
Priority
Required Delivery Data (RDD)
Customer Document Number
Shipping Information (CONUS/OCONUS)
Credit Card Name
Credit Card Number
Part Number/Parts List Number
Quantity
Description of item
Point Of Contact
Phone Number
E-mail (optional)

3.1.2.4. INSTRUCTIONS FOR REQUISITIONING PARTS FROM COMMERCIAL SOURCES: Immediately following the PART ORDER FORMS as required in 3.1.2.3 of this SOW, the contractor shall insert the Instructions For Requisitioning Parts From Commercial Sources page (encl 2) to allow another method for users to order parts.

3.1.4. SYSTEM MANUAL DELIVERY: The system manual shall be delivered at several times during the course of the contract with the intent to correct, update and finalize prior to full scale production and to ensure it meets the user's requirements. The following delivery schedule and requirements shall be adhered to meet this requirement.

3.1.4.1. USER EVALUATION DELIVERY: The contractor shall provide 2 readable and complete draft hard copies of the system manual to the Procuring Contracting Officer (PCO) 1 week prior to completion of the 1st unit produced. The contract shall also have on hand 2 readable copies of that system manual with that 1st unit. A user evaluation shall occur at the contractor's facility within 2 weeks after completion of the 1st unit. Combat Developer representatives from the Government shall attend the user evaluation. During the user evaluation, the contractor shall demonstrate the capabilities of the 1st unit and shall utilize its prepared draft systems manual in the set up, operation, and shut down of the system. No Government civilians or military personnel shall be allowed to operate or utilize the system. Purpose of the user evaluation shall be to demonstrate the system meets the user requirements and that the system manual correctly depicts the system, its components, and its operational procedures. The Government and contractor representatives shall both identify any errors with the system manual during the user evaluation. The contractor shall bear the responsibility to document all required changes found by both the contractor and the Government representatives as a result of the user evaluation. After completion of the user evaluation, but prior to the Government representatives departing the contractor's facility, the contractor and Government representatives shall review and concur in the documented list of changes compiled by the contractor. That document shall be furnished to the PCO within 2 days after completion of the user evaluation. In addition and utilizing that above document, the contractor shall make all necessary and agreed upon changes to the system manual at no additional cost to the Government.

3.1.4.2. TESTING DELIVERY: Based on the user evaluation, the contractor shall provide 2 updated complete draft copies of the system manual to the PCO 1 week prior to start of testing. The contractor shall also overpack 2 of those draft copies with the system for use during testing. Testing personnel shall utilize the draft system manual during testing for set up, operation, shut down, towing, and any necessary troubleshooting. The Government and contractor personnel attending and performing

test shall identify any errors with the system manual during test. The contractor shall bear the responsibility to document all required changes as a result of the test. Upon completion of testing, the contractor and Government personnel in attendance shall review and concur in the documented list of changes compiled by the contractor. That document shall be furnished to the PCO within 2 days after completion of all testing. In addition, the contractor shall make all necessary and agreed upon changes to the system manual at no additional cost to the Government utilizing the documented list of changes.

3.1.4.3. LOGISTICS DEMONSTRATION (LOG DEMO) DELIVERY: Based on the changes as a result of testing, the contractor shall provide 2 further updated draft copies of the system manual to the PCO 1 week prior to start of the Log Demo. The Log Demo shall be conducted at the contractor's facility within 2 weeks after receipt of the Test Report provided the system has a safety release provided by the Government. The Log Demo shall be attended by Government Combat Developer representatives and will be conducted to verify the system can be safely and effectively set up/open up, utilize, shut down/close up, towed, and fault isolated by Government Combat Developer personnel utilizing the draft system manual. The Log Demo shall consist of at least the following and shall utilize the draft system manual for procedure/verification:

a. Safety/Warning cautions
b. Set Up for operation.
c. Performing a portion of the operation and maintenance procedures as determined by the Combat Developer.
d. Fault isolation and troubleshooting. The contractor shall insert a minimum of 5 faults to the SATS system to confirm system manual troubleshooting procedures.
e. Shut down
f. Preparation for towing by a prime mover.

Combat Developer representatives reserve the right to request any additional system demonstrations to verify the manual is adequate. The Government and contractor personnel shall identify any errors found during the Log Demo. The contractor shall bear the responsibility to document all changes necessary as a result of the Log Demo. After completion of the Log Demo, but prior to the Government representatives departing the contractor's facility, the contractor and Government representatives shall review and concur in the documented list of changes compiled by the contractor. That document shall be furnished to the PCO within 2 days after completion of the Log

Demo. In addition and utilizing that above document, the contractor shall make all necessary and agreed upon changes to the system manual at no additional cost to the Government.

3.1.4.4. FINAL TM VERIFICATION DELIVERY: Upon conclusion of the Log Demo, the contractor shall furnish 2 finalized hard copies of the system manual to the PCO within 2 weeks after Log Demo completion. The Government has 45 days from receipt of those hard copies to verify the manual for adequacy. Government will staff this finalized copy with the Combat Developer representatives. The Government shall furnish any additional errors/omissions discovered to the contractor within that 45day period. Upon conclusion of that 45 day period and once all the final changes, if any, are identified and provided to the contractor, the contractor has 2 weeks to provide the final system manual to the PCO at no additional cost to the Government. Delivery of the final system manual shall be in two forms. Ten paper hard copies shall be provided as well as a digital version in Microsoft Word on a CD-ROM disk. Upon final delivery of the above, the Government assumes full control of the system manual and shall bear the responsibility to duplicate and provide copies as necessary to the contractor for overpack into the SATS system.

3.2. COMMERCIAL OFF THE SHELF (COTS) MANUALS AND LITERATURE: The contractor shall bear the responsibility to provide 2 hard copies of all commercially available COTS manuals and literature for all SATS components to the PCO 1 week prior to completion of the 1st unit produced. In addition, 2 copies of all COTS manuals and literature shall be provided with the system(s) used during user evaluation, Testing, and Log Demo. COTS manuals and literature shall be verified by Government Combat Developer Representatives to insure all operator and maintenance tasks are adequately covered. Verifications shall take place during the user evaluation and log demo phases. The contractor shall bear the responsibility to document required changes and coordinate with its subcontractors to make modifications to all COTS manuals and literature to insure all operator and maintenance tasks are adequately covered and so that Combat Developers concur in their adequacy. Two copies of those finalized and approved COTS manuals and literature shall be provided to the PCO at the same time and along with the finalized system manual as required in 3.1.4.4. of this SOW. For production, the contractor shall overpack 2 copies of all finalized and approved COTS manuals and literature with each SATS produced. COTS manuals and literature include but are not limited to, operator manuals, technical manuals, schematics, instruction sheets,

parts lists, and spare/repair parts ordering information. Examples of items that normally have commercial literature include wheel machines, multimeters, etc. The contractor shall bear the responsibility to gain all COTS manuals and literature from its subcontractors. All COTS manuals and literature shall be packed along with the system manual in one location in the SATS and in a manner to prevent damage from the SATs intended outdoor environmental extremes.

3.3. COPYRIGHT RELEASE: Copyright release letters shall be provided to the PCO 1 week prior to the completion of the 1st unit produced for the system manual developed by the contractor in support of the SATS and for all COTS manuals and literature from subcontractors that will be overpacked with the SATS. The signed copyright release letters shall give the Government and contractor the unconditional right to reproduce and use any copyrighted information, including that for subcontractor components and parts, included for use with the SATS.

4.0. QUALITY ASSURANCE PROVISIONS:

4.1. Unless otherwise specified in the contract, the contractor is responsible for the performance of quality inspections/reviews to ensure the requirements of paragraph 3 of this SOW are met. The Government reserves the right to witness/perform any quality inspection/review to assure the system manuals and COTS manuals and literature conform to prescribed requirements.

4.2. Failure to fulfill requirements of paragraph 3 shall be cause for rejection of any or all of the deliverables required from this SOW.

5.0. PACKAGING

5.1. All deliverables required in this SOW shall be packaged utilizing best commercial practice provided they meet the requirements of this SOW.

5.2. Deliverables to the PCO shall be sent via a method determined by the contractor provided that method insures delivery in accordance with this SOW’s requirements.

5.3. Deliverables overpacked with each SATS system shall be packaged/stored within the SATS system and in a manner to

prevent damage as a result the system being stored in an outside environment.

6.0. NOTES: The following information is general in nature and is not mandatory in this SOW but only to provide additional information.

6.1. INTENDED USE: The intent of this SOW is to obtain a system manual in Army Technical Manual Format and Commercial Off The Shelf (COTS) manuals/literature for the Standard Automotive Tool Sets (SATS). Resultant TM shall be DA authenticated as required by regulation. While not a mandatory requirement, contractor's may utilize MIL-HDBK-1222B (available at http//www.logsa.army.mil/pubs.htm)as guidance in assisting in TM development/work packages.

6.2. SOW BASIS: This SOW was written to fulfill Combat Developer support requirements as stated in the Operational Requirements Document.

6.3. SATS. Standard Automotive Tool Sets

6.4. DFP 420. Description For Purchase (DFP) 420 is the document that will be utilized to procure a contractor developed SATS. It was prepared by Army Research Development and Engineering Center (ARDEC) at the Rock Island Arsenal site.

6.5. TM: Technical Manual (TM). The system manual prepared IAW this SOW shall be called a TM and it shall have a TM number assigned to it.

6.6. The PCO will have a separate CLIN for publications with this SOW stated so that the cost of publications does not become a "hidden" cost.

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	-14	MIL-STD-40051 Reference	Element Name
FRONT MATTER	R	R	R	R	5.3.1	<paper.frnt>
Front cover	R	R	R	R	5.3.1.1	<frntcover>
Warning summary					5.3.1.2	<warnsum>
Change transmittal page					5.3.1.3	<chgsheet>
List of effective pages / work packages	R	R	R	R	5.3.1.4	<loepwp>
Title block page	R	R	R	R	5.3.1.5	<titleblk>
Table of contents	R	R	R	R	5.3.1.6	<contents>
How to use this manual	R	R	R	R	5.3.1.7	<howtouse>
CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION	R	R	R	R	1-5.1	<gim>
GENERAL INFORMATION WORK PACKAGE	R	R	R	R	1-5.2	<ginfowp>
Scope	R	R	R	R	1-5.2.1	<scope>
Maintenance forms, records, and reports	R	R	R	R	1-5.2.3	<mfrr>
Reporting equipment improvement recommendations (EIR)	R	R	R	R	1-5.2.4	<eir>
Hand receipt (HR) manuals					1-5.2.5	<handreceipt>
Corrosion prevention and control (CPC)	R	R	R	R	1-5.2.6	<cpcdata>
Ozone depleting substances (ODS)					1-5.2.7	<odsdata>
Destruction of Army materiel to prevent enemy use	R	R	R	R	1-5.2.8	<destructmat>
Preparation for storage or shipment	R	R	R	R	1-5.2.9	<pssref>
Warranty information			R		1-5.2.10	<wrntyref>
Nomenclature cross-reference list			O		1-5.2.11	<nomenreflist>
List of abbreviations/acronyms	R	R	R	R	1-5.2.12	<loa>
Quality of material	R	R	R	R	1-5.2.14	<qual.mat.info>
Safety, care, and handling	R	R	R	R	1-5.2.15	<sftyinfo>
Nuclear hardness			NR		1-5.2.16	<hcp>
Calibration			R		1-5.2.17	<calref>
Copyright credit line			NR		1-5.2.23	<copyrt>
Supporting information for repair parts, special tools, TMDE, and support equipment	NR		NR		1-5.2.24	<supdata>

ENCL 1

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	[redacted]	MIL-STD-40051 Reference	Element Name
EQUIPMENT DESCRIPTION AND DATA WORK PACKAGE	R	R	R	R	1-5.3	<descwp>
Equipment characteristics, capabilities, and features	R	R	R	R	1-5.3.1	<eqpinfo>
Location and description of major components	R	R	R	R	1-5.3.2	<locdesc>
Differences between models			NR	[redacted]	1-5.3.3	<eqpdiff>
Equipment data	R	R	R	R	1-5.3.4	<eqpdata>
Equipment configuration					1-5.3.5	<eqpconfig>
THEORY OF OPERATION WORK PACKAGE	R	R	R	R	1-5.4	<thrywp>
CHAPTER X. OPERATOR INSTRUCTIONS	R	R	R	R	2-5.1	<opim>
DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS WORK PACKAGE	R	R	R	R	2-5.2.2.2	<ctrlindwp>
OPERATION UNDER USUAL CONDITIONS WORK PACKAGE	R	R	R	R	2-5.2.2.3	<opusualwp>
Security measures for electronic data	R	R	R	R	2-5.2.2.3.1	<secref>
Siting requirements	[redacted]				2-5.2.2.3.2	<site>
Shelter requirements					2-5.2.2.3.3	<shelter>
Assembly and preparation for use					2-5.2.2.3.4	<prepforuse>
Initial adjustments, before use and self-test					2-5.2.2.3.5	<initial>
Operating procedures	R	R	R	R	2-5.2.2.3.6	<oper>
Decals and instruction plates	[redacted]				2-5.2.2.3.6.2	<instructplt>
Operating auxiliary equipment					2-5.2.2.3.7	<operaux>
Preparation for movement					2-5.2.2.3.8	<prepmove>
OPERATION UNDER UNUSUAL CONDITIONS WORK PACKAGE	R	R	R	R	2-5.2.2.4	<opunuwp>
Security measures for electronic data	R	R	R	R	2-5.2.2.4.1	<secref>
Unusual environment / weather	R	R	R	R	2-5.2.2.4.2	<unusualenv>
Fording and swimming	[redacted]				2-5.2.2.4.3	<fording>
Interim nuclear, biological, and chemical (NBC) decontamination procedures					2-5.2.2.4.4	<decon>
Jamming and electronic countermeasures (ECM) procedures					2-5.2.2.4.5	<ecm>
Emergency procedures	R	R	R	R	2-5.2.2.4.6	<emergency>

ENCL 1

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	-14 -14&P	MIL-STD-40051 Reference	Element Name
STOWAGE AND DECAL / DATA PLATE GUIDE WORK PACKAGE			NR		2-5.2.2.5	<stowagewp>
ON-VEHICLE EQUIPMENT LOADING PLAN WORK PACKAGE			O		2-5.2.2.6	<eqploadwp>
CHAPTER X. TROUBLESHOOTING PROCEDURES		R	R	R	3-5.3	<tim>
TROUBLESHOOTING INDEX WORK PACKAGE			R		3-5.3.3.2	<tsindxwp>
OPERATIONAL CHECKOUT WORK PACKAGES					3-5.3.3.6.3	<opcheckwp>
TROUBLESHOOTING PROCEDURES WORK PACKAGES					3-5.3.3.6.4	<tswp>
OPERATIONAL CHECKOUT AND TROUBLESHOOTING PROCEDURES WORK PACKAGES					3-5.3.3.6.5	<opcheck-tswp>
CHAPTER X. MAINTENANCE INSTRUCTIONS	R	R	R	R	4-5.3	<mim>
SERVICE UPON RECEIPT WORK PACKAGE	NR	R	R	R	4-5.3.2.1	<surwp>
Siting	NR				4-5.3.2.1.1	<siting>
Shelter requirements	NR				4-5.3.2.1.2	<shltr>
Service upon receipt of materiel	NR				4-5.3.2.1.3	<surmat>
Installation instructions	NR				4-5.3.2.1.4	<install>
Preliminary servicing of equipment	NR				4-5.3.2.1.5	<preserv>
Preliminary checks and adjustment of equipment	NR				4-5.3.2.1.6	<prechkadj>
Preliminary calibration of equipment	NR				4-5.3.2.1.7	<precal>
Circuit alignment	NR				4-5.3.2.1.8	<calign>
Ammunition markings	NR				4-5.3.2.1.9	<ammo.markings>
Classification of defects	NR				4-5.3.2.1.10	<ammo.defect>
Ammunition handling	NR				4-5.3.2.1.11	<ammo.handling>
Procedures to activate ammunition	NR				4-5.3.2.1.12	<arm>
EQUIPMENT / USER FITTING INSTRUCTIONS WORK PACKAGE (PERSONAL USE EQUIPMENT)	NR		NR		4-5.3.2.2	<perseqpwp>
PMCS INTRODUCTION WORK PACKAGE	R	R	R	R	4-5.3.2.3.1	<pmcsintrowp>
PMCS, INCLUDING LUBRICATION INSTRUCTIONS, WORK PACKAGE	R	R	R	R	4-5.3.2.3.2	<pmcswp>

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	-14	MIL-STD-40051 Reference	Element Name
MAINTENANCE WORK PACKAGES ***NOTE*** *As applicable, the following maintenance tasks shall be presented in the general order listed below:*	R	R	R	R	4-5.3.2.4	<maintwp>
Servicing					4-5.3.2.4.1.3	<service>
Ground handling					4-5.3.2.4.1.4	<groundtsk>
Inspection of installed items					4-5.3.2.4.1.5	<inspinstitm>
Removal					4-5.3.2.4.1.6	<remove>
Disassembly					4-5.3.2.4.1.7	<disassem>
Cleaning					4-5.3.2.4.1.8	<clean>
Inspection - acceptance and rejection criteria					4-5.3.2.4.1.9	<acptrejinsp>
Nondestructive testing inspection (NDTI)					4-5.3.2.4.1.10	<ndti>
Repair or replacement					4-5.3.2.4.1.11	<repair-rplc>
Alignment					4-5.3.2.4.1.12	<align>
Painting					4-5.3.2.4.1.13	<paint>
Lubrication					4-5.3.2.4.1.14	<lube>
Assembly					4-5.3.2.4.1.15	<assem>
Test and inspection					4-5.3.2.4.1.16	<test-inspect>
Installation					4-5.3.2.4.1.17	<install>
Adjustment					4-5.3.2.4.1.18	<adjust>
Calibration					4-5.3.2.4.1.19	<calibration>
Radio interference suppression					4-5.3.2.4.1.20	<ris>
Placing in service					4-5.3.2.4.1.21	<pis>
Testing					4-5.3.2.4.1.22	<test-pass>
Preparation for storage or shipment					4-5.3.2.4.1.25	<pss>
Classification of defects					4-5.3.2.4.1.26	<ammo.defect>
Handling ammunition					4-5.3.2.4.1.27	<ammo.handling>
Ammunition markings					4-5.3.2.4.1.28	<ammo.markings>
Procedures for ammunition activation					4-5.3.2.4.1.29	<arm>
GENERAL MAINTENANCE WORK PACKAGE			R	R	4-5.3.2.5	<gen.maintwp>
ILLUSTRATED LIST OF MANUFACTURED ITEMS WORK PACKAGE	NR		O	O	4-5.3.2.7	<manuwp>
TORQUE LIMITS WORK PACKAGE	NR		NR	NR	4-5.3.2.8	<torquewp>

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	-14 -14&P	MIL-STD-40051 Reference	Element Name
WIRING DIAGRAMS WORK PACKAGE	NR		R		4-5.3.2.9	<wiringwp>
CHAPTER X. AUXILLARY EQUIPMENT MAINTENANCE INSTRUCTIONS			NR		4-5.3	<mim>
AUXILIARY EQUIPMENT MAINTENANCE WORK PACKAGE			NR		4-5.3.2.11	<auxeqpwp>
ILLUSTRATED LIST OF MANUFACTURED ITEMS WORK PACKAGE	NR		NR		4-5.3.2.7	<manuwp>
TORQUE LIMITS WORK PACKAGE	NR		NR		4-5.3.2.8	<torquewp>
WIRING DIAGRAMS WORK PACKAGE	NR		NR		4-5.3.2.9	<wiringwp>
CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS			NR		4-5.3	<mim>
AMMUNITION MAINTENANCE WORK PACKAGE			NR		4-5.3.2.12.1	<ammowp>
AMMUNITION MARKING INFORMATION WORK PACKAGE	NR		NR		4-5.3.2.12.2	<ammo.markingwp>
FOREIGN AMMUNITION (NATO) WORK PACKAGE	NR		NR		4-5.3.2.12.3	<natowp>
CHAPTER X. SUPPORTING INFORMATION ***NOTE*** *Applicable supporting information work packages shall be arranged in the order in which they are presented here and numbered accordingly.*	R	R	R	R	6-5.1	<sim>
REFERENCES WORK PACKAGE	R	R	R		6-5.2	<refwp>
INTRODUCTION FOR STANDARD FORMAT MAC WORK PACKAGE	NR	R	R		6-5.3.1	<macintrowp>
MAC WORK PACKAGE	NR	R	R		6-5.3.3	<macwp>
RPSTL WORK PACKAGE *(-10 THROUGH -14)* *(-12&P THROUGH -14&P)*	NR NR	NR R	NR R		6-5.4	<rpstlwp>
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS WORK PACKAGE	R	R	R		6-5.5	<coeibiiwp>
ADDITIONAL AUTHORIZATION LIST (AAL) WORK PACKAGE			NR		6-5.6	<aalwp>

Table A.1 Page-Based TM Requirements Matrix for SATS

TM Content	-10	-12 -12&P	-13 -13&P	-14 -14&P	MIL-STD-40051 Reference	Element Name
EXPENDABLE AND DURABLE ITEMS LIST WORK PACKAGE	R	R	R	R	6-5.7	<explistwp>
TOOL IDENTIFICATION LIST WORK PACKAGE	NR		NR		6-5.8	<toolidwp>
MANDATORY REPLACEMENT PARTS WORK PACKAGE	NR		NR		6-5.9	<mrplwp>
CRITICAL SAFETY ITEMS AND FLIGHT SAFETY CRITICAL AIRCRAFT PARTS WORK PACKAGE			NR		6-5.10	<csi.fscap.wp>
SUPPORT ITEMS WORK PACKAGE			NR		6-5.11	<supitemwp>
ADDITIONAL SUPPORTING WORK PACKAGES			NR		6-5.12	<genwp>
REAR MATTER	R	R	R		5.3.2	<rear>
Glossary			R		5.3.2.1	<glossary>
Alphabetical index			R		5.3.2.2	<aindx>
Foldout pages			D		5.3.2.3	<foldsect>
DA Form 2028	R	R	R	R	5.3.2.4	<da2028>
Authentication page	R	R	R	R	5.3.2.5	<authent>
Back cover	R	R	R	R	5.3.2.6	<back>

Legend

R Required
NR Not Required
O Optional
Shaded As Required

INSTRUCTIONS FOR REQUISITIONING PARTS
FROM COMMERCIAL SOURCES

The supply officer shall identify the prime manufacturer of the repair part by Commercial and Government Entity (CAGE) Code Number and requisition the repair part from the prime manufacturer. When requisitioning parts from commercial sources, it is mandatory that the following information be provided the supply officer by the unit.

1. Commercial And Government Entity (CAGE) Code Number.

2. Manufacturer's Part Number - Exactly as listed in the commercial literature.

3. Nomenclature - Exactly as listed in the commercial literature, including dimensions if available.

4. Manufacturer's Model Number.

5. Manufacturer's Serial Number - (End Item).

6. Any additional information such as type, size, thread, frame number, and electrical characteristics.

Encl2

EXAMPLE

TM [redacted] TBD

[redacted] SATS

Parts Order Form

Email to _____ Fax to _____

From	
Name	
Organization	
Address	
Phone #	
Fax #	
Email	
(Expect response within 24-hour normal workday.)	

Shipping Information (check one)				Charge to:			
	CONUS	[redacted]	OCONUS		VISA		Master Card
					American Express		Government
Priority Designator				Card #			
				Exp. Date			
Required Delivery Date				*(Charges will include shipping cost.)*			

SHIP TO *(if different from above)*			
Name		Phone #	
Organization			
DODAAC			
Customer Document Number (CDN)			

FORWARD TO *(if appropriate)*			
Name			
Organization		DODAAC	
Address			

Parts List #	Quantity	Description

(Add extra page if required)

4-47 / 4-48 blank

ENCL 3

DEPARTMENT OF THE ARMY
USAMC LOGISTICS SUPPORT ACTIVITY
REDSTONE ARSENAL, ALABAMA 35898-7466

REPLY TO
ATTENTION OF

29 MAY 2003

AMXLS-AP

MEMORANDUM FOR SEE DISTRIBUTION:

SUBJECT: Interim Guidance for Preparing Technical Manuals for Systems With Two-Level Maintenance Concept

1. The following guidance is provided for your use in preparing technical manuals for systems using the new two-level maintenance concept:

a. The two levels are field and sustainment:

(1) Field maintenance is on-system maintenance and is mainly replacement of defective parts and preventative maintenance. Field maintenance returns repaired equipment to the soldier. It covers crew, unit, and selected DS maintenance tasks. Some "off-system" maintenance can be done at field level if, based on task analysis, it is simple to complete or it is critical to mission readiness.

(2) Sustainment is off-system maintenance and is mainly repair of defective equipment/parts. Sustainment maintenance returns repaired equipment/parts to the supply system. It covers selected DS tasks, GS, and Depot maintenance.

b. DS/GS tasks must be analyzed to determine whether they will be done at field or sustainment level.

c. All new as well as selected current systems will be using two-level maintenance. As the two-level maintenance doctrine continues to evolve TRADOC will identify Units of Action (UA) that will transition to the two-level maintenance concept. Equipment listed on the Table of Organizational Equipment (TOE) associated with the identified UA will be required to transition to the two-level maintenance structure. Technical Manuals for these systems must be prepared using MIL-STD-40051. The only content changes required are in the maintenance allocation chart (MAC). Enclosure 1 contains a sample introduction and MAC to support the two-level maintenance concept. The maintenance level, in the work package header information for the operator/maintenance/troubleshooting task, would be field (unit), field (DS), sustainment (GS) or sustainment (depot).

d. The TM numbers will be done in accordance with DA PAM 25-40 as they currently are done. There will not be a change in how TMs are numbered at this time.

ENCL 4

AMXLS-AP
SUBJECT: Interim Guidance for Preparing Technical Manuals for Systems With Two-Level Maintenance Concept

2. This interim guidance will be incorporated into revision "C" to MIL-STD-40051 and will remain in effect until the revision is completed.

3. Point of contact is John Zibell, DSN 645-9852; e-mail address, john.zibell@logsa.redstone.army.mil.

Encl
as

JOHN E. PEER
Chief, Engineering, Logistics, and Field Support Center
Logistics Support Activity

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MAINTENANCE ALLOCATION CHART (MAC)
INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field — includes two subcolumns, Unit (C (operator/crew) and O (unit) maintenance) and Direct Support (F) maintenance

Sustainment — includes two subcolumns, general support (H) and depot (D).

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

Enclosure

3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.

4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

6. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

8. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

9. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "repair" maintenance function:
Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

10. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

11. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

Explanation of Columns in the MAC

Column (1) Group Number. Column (1) lists FGC numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above.)

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field:
C Operator or crew maintenance
O Unit maintenance
F Direct support maintenance

Sustainment:
H General support maintenance
D Depot maintenance

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Columns in the Tools and Test Equipment Requirements

Column (1) Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) Nomenclature. Name or identification of the tool or test equipment.

Column (4) National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) Tool Number. The manufacturer's part number, model number, or type number.

Explanation of Columns in the Remarks

Column (1) Remarks Code. The code recorded in column (6) of the MAC.

Column (2) Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC."

Table 1. MAC for (*Insert system name*)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND TEST EQUIPMENT	(6) REMARKS CODE
			FIELD			SUSTAINMENT			
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		

Table 2. Tools and Test Equipment for (*Insert system name*)

Table 3. Remarks for (*Insert system name*)

Enclosure